



# COUNTY OF LOS ANGELES PROBATION DEPARTMENT

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November 26, 2014

TO: Supervisor Don Knabe, Chairman  
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FROM: Jerry E. Powers *Revised Bingham for J.P.*  
Chief Probation Officer

SUBJECT: **LOS ANGELES COUNTY PROBATION DEPARTMENT 90-DAY  
REPORT ON GPS ELECTRONIC MONITORING CONTRACT**

At the Board Meeting on February 25, 2014, the Chief Probation Officer was directed to report back to the Board at the meeting of May 27, 2014, on the status of staff training and internal policies to be implemented related to electronic monitoring and the GPS programs.

This report summarizes the current status of the Department's review and progress on this contract over the past 90 days.

## **SUMMARY:**

This report summarizes the progress since the August 26, 2014 report. Sixty days of the past 90 days were devoted to a 100% audit of all 240 active cases. The audit was completed on November 3, 2014. Probation is currently analyzing the results of that audit and will have a separate audit report by the end of the month.

Preliminary review of the raw data indicates several things.

- The percentage of lost or missing GPS location points is calculated at 14% which is the same rate as reported in the 2013 audit and in the resulting 2013 Contract Discrepancy Report (CDR). This rate is viewed as unacceptable and raises public safety issues. In addition to the 14% rate, there were a number of instances where probation found that GPS points were missing but

probation was not notified by Sentinel that there was a problem. Probation discovered these instances in the course of the audit. While this does not change the rate one way or the other, it increases public safety concerns because we are not notified of the problem in some of these cases.

- The rate of equipment exchange in the current audit was at 30%. This is a significant increase over the rate found in the 2013 audit. The actual percentage rate in 2013 was 26%. However, as Sentinel pointed out in their response to the 2013 CDR, a number of the equipment exchanges in 2013 were due to hardware upgrades. During the present audit period, there were no exchanges of equipment to accomplish upgrades. Thus, in comparing the equipment exchange rates, the 26% in 2013 is inflated and the difference between the two rates is actually greater than 4%. It is estimated to be closer to 7%. Equipment exchange is not a significant problem when it is due to a planned upgrade. When it is not planned, however, it involves a period of malfunction where we lose track of the subject that we are tracking. In a significant percentage of these cases, tracking points were lost for extended periods. These extended periods were from a minimum of 4 hours to 3 ½ days.
- The raw data in the audit shows a high number of total alerts. The total of all of the alerts is misleading in some regards. First, Sentinel's software generates automatic alerts for various conditions. These conditions include "No Cell", "No GPS", "Tamper", "Battery". Taking "No GPS" as an example, Sentinel's software generates an alert at one hour, two hours, three hours, four hours, eight hours, and 12 hours. Thus, if the subject damages the unit, the alerts begin and continue as the deputy investigates the circumstances. A unit that has become defective will continue to generate alerts until it is replaced. This frequently takes 12 hours to investigate and set up the exchange for a new unit. So this one instance will generate seven "No GPS" alerts. The system will also simultaneously generate "No Cell" alerts at the same time for the same unit. The same incident will also generate a "tamper", and several "Low Battery" alerts. In receiving all of these alerts, the deputy knows that they are all related to the same incident. They do not represent multiple incidents where the deputy must spend time on each one.

The raw data from the 60 day audit showed a total of 3,700 alerts per month spread over 240 cases. This comes to approximately 925 alerts per week which is 3.8 per case. Two thirds to three quarters of these are either informational and require no further action or they were redundant (repeated on the same case for the same reasons). This means that the average number of alerts that the deputy must act on is approximately 1 per case per week. Alerts that the deputy must respond to continue to run at approximately 20 per week per caseload of 20 (which is yardstick).

### **SYSTEM ENHANCEMENTS:**

The primary enhancement that occurred during the last nine months was a hardware upgrade that added Advanced Forward Linking Trilateration (AFLT). This function is designed to take over when GPS satellite communication is lost. AFLT triangulates based on local cellular towers. It is designed to cut in automatically when the GPS points are lost. When AFLT generates points based on this cellular triangulation, the points show up on the map but they are far less accurate than GPS points. The problem that the audit discovered is that when the unit goes to AFLT, it sometimes locks up in the cellular triangulation mode and does not go back to using GPS when satellite signals are available again. Probation discovered cases where the unit reported cellular triangulation four hours while GPS positioning was available.

A second enhancement that was found to be problematic in a number of cases was the use of Radio Frequency-based (RF) Home Units. These units are placed in a home in circumstances where satellite communication is blocked by the building. The GPS unit is supposed to automatically switch over to RF communication while the GPS unit is in range (i.e., within a certain distance of the base unit). This also has the advantage of saving battery life since the person will spend a significant amount of time at home and the RF unit does not draw down the GPS unit's battery as much as true GPS positioning. Several cases were found where once the RF unit took over GPS communication was not returned when the person left home. In these cases, the subject was out and about but Probation was still seeing him or her as being at home.

Sentinel has been unable to fully explain or fix either of the above issues to date.

Probation has experienced a significant amount of inaccuracies in the reported position of offenders or drift. There are no current industry standards for drift nor does Probation have any comparison data for other vendors. By January 2015, probation will have tested five (5) additional vendors and will be able to compare the relative accuracy of Sentinel's product to other electronic vendors. Probation has requested "Certification" of some of the inaccurate GPS data. This is a process where the provider reviews specific GPS data and certifies the accuracy. This usually occurs in criminal court cases. In this instance, it was an audit matter. The certification request was made during the audit and Sentinel has not responded (at this point for more than 14 days). Some vendors supply tools and/or certification statements that verify the accuracy of points. This includes specifying the number of satellites that were used in determining the location and the use of Horizontal Dilution of Precision (HDOP) to assess accuracy. Sentinel does not provide these, though they are commonly available in terms of current technology. The absence of current technology regarding accuracy could be problematic in any court action where GPS location was used in a criminal prosecution.

**CURRENT CASELOAD SIZES:**

The current range of caseload sizes is a high of 23 and a low of 12 with an average of 17. Some workload is shared in order to level workload across deputies. This range is due to the geographical distribution of cases combined with some turnover of personnel. Probation is currently exploring alternatives to more efficiently manage the distribution of cases. The percentage composition of cases remains the same: Sex Offenders (felony probation high risk and post release community supervision Sex Offenders) at 88%; court ordered (non-sex offender) 10%; placed on GPS by Probation (community safety concern) 1%; decertified Mentally Disordered Offender .01

**CONCLUSION:**

Probation will meet with County Counsel in early December, 2014 to discuss options. Preliminary results of the current audit indicate further action is needed. Sentinel has improved in some areas since the 2013 CDR. However, several critical performance areas remain at the same unacceptable level or, in some areas, have grown worse.

Please contact me if you have any questions or need additional information, or your staff may contact Deputy Chief Reaver Bingham, at (562) 940-2513.

JEP:MEP:REB:ed

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